CNS/ATM for Naval Aviation

This is an informal newsletter for the Naval Aviation community produced by PMA-209. Information presented herein does not represent any official U.S. Navy or DoD position.

Volume 3, Issue 1, January 31, 2001

Purpose

This newsletter provides information to the Naval aviation community on civil initiatives in Communications, Navigation and Surveillance / Air Traffic Management (CNS/ATM).

UPDATES

8.33 kHz Channel Spacing

(Original article appeared in Volume 1, issue 1.)

Recently, more nations announced their intent to implement 8.33 kHz VHF channel spacing. Also, studies are underway to move the flight level to the ground.

8.33 kHz Requirements (Europe only)

Location	Flight Levels	When
Austria (west of 12E), Belgium, France, Germany, Luxembourg, the Netherlands, Switzerland	Above FL245	7 October, 1999
Austria (East of 12E)	Above FL340	7 October, 1999
France	Above FL195	7 October, 2001
UK	Above FL245	1 January, 2002
Croatia, Czech Republic, Hungary, Italy, Latvia, Lithuania, Romania, Slovak Republic, Slovenia, Yugoslavia	Above FL245	31 October, 2002
Denmark, Finland, Norway, Sweden	Above FL245	31 October, 2002 [If the other nations listed implement at same time]
Spain	Above FL245	March 2003
Poland, Portugal	Above FL245	October 2003
Estonia	Above FL245	2003 - 2004
Ireland	Above FL245	2005
Bulgaria	Above FL245	After 2005
Nations listed above	Ground & above	2008 ?

In the United States, some passenger carriers want to use 8.33 kHz channel spacing (along with VHF Data Link Mode 2) to relieve frequency spectrum congestion. This position is contrary to the ICAO favored Time Division Multiple Access (TDMA) technology. TDMA is the basis of the FAA's NEXCOM (Next generation Communications). In 2001, the FAA will choose between NEXCOM and the short-term band-aid technologically backward position advocated by airlines.

Reduced Vertical Separation Minimum

(Original article appeared in Volume 1, issue 1.)

Implementation of Reduced Vertical Separation Minimum (RVSM) is also spreading globally. Europe and the oceanic routes to and from both North and South America to Europe are moving toward a January 2002 implementation. Airspace sectors in the North Atlantic controlled by France, Ireland, and the UK plan non-exclusionary use on an earlier date. Airspace in the Western Pacific and South China Seas are looking at a February 2002 implementation. Flight levels will be exclusionary up to FL390 and non-exclusionary above that. In the Mid East, nations are looking at 2003. Nations in the Russian Federation are rumored to be looking at a 2004 date. Planning for the Gulf of Mexico is targeting 2004. In the region from the Mid East to West Pakistan, nations are in the planning stage of implementation.

For the continental US (CONUS), the FAA is considering possible RVSM implementation in 2004 or 2005. It is likely that a phased approach will be adopted since an upgrade to version 7 software in the Traffic Alert and Collision Avoidance System at the same time will be necessary for safety reasons. Canada is looking at implementation in its northern trans-Canda routes.

RVSM Implementation

Location	Flight Levels	When
North Atlantic	FL330-370	27 March 1997
North Atlantic	FL310-390	8 October 1998
North Atlantic (Ireland, UK, France sectors)	FL290-410	19 April 2001
North Atlantic (all sectors)	FL290-410	24 January 2002
Pacific (Oceanic Airspace)	FL290-390	24 February 1999
Pacific (Dense Airspace)	FL290-390	24 February 2000
Canada (Northern routes)	TBD	2001

Western Atlantic Route System	FL290-410	1 November 2001
South Atlantic	FL290-410	24 January 2002
Europe	FL290-410	24 January 2002
Western Pacific and South China Sea	FL290-410	21 February 2002
Mid East	TBD	2003
Russian Federation	TBD	2004 ?
Gulf of Mexico	FL290- ?	2004 ?
CONUS	TBD	2004 / 5 ?
Asia (Mid East to West Pakistan)	TBD	TBD (Planning under way)

State aircraft that are not RVSM equipped must provide advance notification when flying in the Oakland, Anchorage, Tokyo, and Naha airspace. An RVSM Notification Form may be filed by fax with the appropriate centers. Consult flight information publication guidance for further details.

CNS/ATM NEWS

P-ILS Mandate In Effect

On 1 January 2001, fifty-one nations, mostly located in Europe, began requiring aircraft to be FM Immune. Sometimes referred to as Protected – ILS (P-ILS), receivers in aircraft landing systems must include filters that eliminate potential interference from commercial FM broadcast stations that may possibly distort signals sent from ground based landing aids.

Policies on military aircraft being FM Immune equipped vary widely among the nations and change rapidly. Pilots are strongly encouraged to verify official flight information publication (FLIP) guidance prior to flight. The JCS FLIP web page is http://www.notams.jcs.mil/europe/fmimm.html. More information on P-ILS may be found in the Volume 1 issue 3 newsletter.

RNP-10 on NOPAC Routes

On 30 November 2000, the Required Navigation Performance (RNP-10) base flight level within the Anchorage Flight Information Region (FIR) was decreased to FL180. The change aligned the Anchorage FIR base flight level with the Tokyo FIR base flight level. On a non-exclusionary basis, state aircraft that are not RNP-10 capable will be accommodated on FL180 through FL280.

RNP-10 was also implemented on the US West Coast to Hawaii track system routes on 24 February 2000. The flight levels are FL290 to FL390.

ADS-B Data Link Decision

A decision is expected this fall by the FAA and European evaluators on which data link(s) will be used with Automatic Dependent Surveillance - Broadcast (ADS-B). Three candidate data links – Mode S with Downlink of Aircraft Parameters, or Universal Access Transceiver (UAT), or VHF Data Link Mode 4 (VDL-4) – are being evaluated. For additional details on ADS-B, see the Volume 1 issue 4 newsletter.

The FAA is nearly finished with the technical assessments of the three links. Next is an investment analysis to determine which link provides the optimum cost – benefit balance. The two assessments will be combined into a recommendation that will be forwarded to the FAA administrator for concurrence and promulgation. European evaluators are following a similar process.

A DOD ADS data link strategy team was formed to provide inputs into the FAA process. The team consists of members from each of the services, OSD C3I, JCS, and the DOD liaison to the FAA. This cooperative effort with the FAA will allow the DOD viewpoint and cost impacts to be included in the decision-making process.

PMA-209 Web Site

The long awaited debut of the PMA-209 web site occurred in August 2000. The web address is http://pma209.navair.navy.mil. It contains descriptions of PMA 209 products and plans.

On the page dedicated to CNS/ATM, a viewer will find buttons that lead to an organization chart, road map, requirements, product plans, compliance, accomplishments, and past issues of this newsletter. Please keep in mind that the information was current as of the debut date and may have changed.

Other pages of interest to CNS/ATM planners are the COMM page where information on the ARC-210 may be found and the NAV page where the EGI status is presented. On the Flight Safety page, a viewer will find discussions of the common transponder (CXP), TCAS, and MCAS.